SAFETY DATA SHEET

Fragrance 30011902

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier

Product code : Fragrance 30011902

Product name : JAPANESE CEREMONY AFL

1.2 Relevant identified uses of the substance or mixture and uses advised against

Fragrance. Restricted to professional users. Industrial use only.

1.3 Details of the supplier of the safety data sheet

Supplier's details : drom fragrances GmbH & Co. KG
Oberdiller Straße 18
tel. +49 89 74425-0
fax. +49 89 7934966
D-82065 Baierbrunn

e-mail address of person responsible for this SDS : safety@drom.com

1.4 Emergency telephone number

National advisory body/Poison Center

Telephone number : www.rshm.gov.tr

Supplier

Emergency telephone number (with hours of operation) : +49 89 74425 288
9h - 17h (Mo - Fr)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Skin Irrit. 2, H315
Eye Irrit. 2, H319
Skin Sens. 1, H317
Aquatic Chronic 2, H411

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H319 - Causes serious eye irritation.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : P280 - Wear protective gloves. Wear eye or face protection.
P273 - Avoid release to the environment.

SECTION 2: Hazards identification

Response : P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage : Not applicable.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : linalyl acetate
dipentene
7-hydroxycitronellal
1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one
citral
citronellol
3-(4-tert-butylphenyl)propionaldehyde
3-p-cumenyl-2-methylpropionaldehyde
(E)-1-(2,6,6-trimethyl-1-cyclohexen-1-yl)-2-buten-1-one
2-(4-tert-butylbenzyl)propionaldehyde
geranyl acetate
α-methyl-1,3-benzodioxole-5-propionaldehyde
geraniol
pin-2(10)-ene
2-benzylideneheptanal

Supplemental label elements : Not applicable.

2.3 Other hazards

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.1 Substances : Not applicable.

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
benzyl benzoate	REACH #: 01-2119976371-33 EC: 204-402-9 CAS: 120-51-4 Index: 607-085-00-9	13.00	Acute Tox. 4, H302 Aquatic Acute 1, H400 Aquatic Chronic 2, H411	[1]
linalyl acetate	REACH #: 01-2119454789-19 EC: 204-116-4 CAS: 115-95-7	10.67	Skin Irrit. 2, H315 Eye Irrit. 2, H319	[1]
A mixture of: cis-tetrahydro-2-isobutyl-4-methylpyran-4-ol; trans-tetrahydro-2-isobutyl-4-methylpyran-4-ol	REACH #: 01-0000015458-64 EC: 405-040-6 CAS: 63500-71-0 Index: 603-101-00-3	8.00	Eye Irrit. 2, H319	[1]
Oxacyclohexadecen-2-one	REACH #: 01-0000016883-62 EC: 422-320-3 CAS: 34902-57-3 CAS: 111879-80-2 Index: 606-092-00-4	7.00	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1]
dipentene	EC: 205-341-0	5.69	Flam. Liq. 3, H226	[1]

SECTION 3: Composition/information on ingredients

	CAS: 138-86-3 Index: 601-029-00-7		Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	
linalool	REACH #: 01-2119474016-42 EC: 201-134-4 CAS: 78-70-6	5.63	Skin Irrit. 2, H315 Eye Irrit. 2, H319	[1]
(E)-4-(2,6,6-trimethyl-1-cyclohexen-1-yl)-3-buten-2-one	REACH #: 01-2119449921-34 EC: 201-224-3 CAS: 79-77-6	5.50	Aquatic Chronic 2, H411	[1]
7-hydroxycitronellal	REACH #: 01-2119973482-31 EC: 203-518-7 CAS: 107-75-5	4.30	Eye Irrit. 2, H319 Skin Sens. 1B, H317	[1]
1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one	REACH #: 01-2119489989-04 EC: 915-730-3 CAS: 54464-57-2 CAS: 68155-66-8 CAS: 68155-67-9	3.20	Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1]
citral	REACH #: 01-2119462829-23 EC: 226-394-6 CAS: 5392-40-5 Index: 605-019-00-3	1.43	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317	[1]
citronellol	REACH #: 01-2119453995-23 EC: 203-375-0 CAS: 106-22-9	1.42	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317	[1]
3-(4-tert-butylphenyl) propionaldehyde	REACH #: 01-2119983533-30 EC: 242-016-2 CAS: 18127-01-0	1.20	Skin Irrit. 2, H315 Skin Sens. 1B, H317 Repr. 2, H361f (Fertility) STOT RE 2, H373 (oral) Aquatic Chronic 3, H412	[1]
3-p-cumenyl-2-methylpropionaldehyde	REACH #: 01-2119970582-32 EC: 203-161-7 CAS: 103-95-7	1.00	Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Chronic 3, H412	[1]
2-(4-tert-butylbenzyl) propionaldehyde	REACH #: 01-2119485965-18 EC: 201-289-8 CAS: 80-54-6	0.35	Acute Tox. 4, H302 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Repr. 2, H361f (Fertility) Aquatic Chronic 2, H411	[1]
pin-2(10)-ene	EC: 204-872-5 EC: 242-060-2 CAS: 127-91-3 CAS: 18172-67-3	0.11	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1]

SECTION 3: Composition/information on ingredients

2,6-di-tert-butyl-p-cresol	REACH #: 01-2119555270-46 EC: 204-881-4 CAS: 128-37-0	0.10	Aquatic Acute 1, H400 Aquatic Chronic 1, H410 **See Section 16 for the full text of the H statements declared above.**	[1] [2]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
[5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

Hydrocarbon. (Content) : 6.17%

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

SECTION 4: First aid measures

Over-exposure signs/ symptoms : Not available.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

5.3 Advice for firefighters

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

SECTION 6: Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Seveso Directive - Reporting thresholds (in tonnes)

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
E2: Hazardous to the aquatic environment - Chronic 2 C9ii: Toxic for the environment	200 200	500 500

7.3 Specific end use(s)

Recommendations : Industrial use only.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
2,6-di-tert-butyl-p-cresol	**NIOSH REL (United States, 10/2013).** TWA: 10 mg/m³ 10 hours.

DNELs/DMELs

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Type	Exposure	Value	Population	Effects
benzyl benzoate	DNEL	Long term Oral	0.4 mg/kg bw/day	Consumers	Systemic
	DNEL	Short term Oral	78 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	5.1 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	102 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	1.25 mg/m³	Consumers	Systemic
	DNEL	Short term Inhalation	25 mg/m³	Consumers	Systemic
	DNEL	Long term Dermal	2.6 mg/kg bw/day	Workers	Systemic
linalyl acetate	DNEL	Long term Inhalation	2.75 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	2.5 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Dermal	8 mg/cm²	Workers	Local
	DNEL	Long term Inhalation	0.68 mg/m³	Consumers	Systemic
	DNEL	Long term Oral	0.2 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Dermal	1.25 mg/ kg bw/day	Consumers	Systemic
	DNEL	Short term Dermal	8 mg/m³	Consumers	Local
	DNEL	Long term Dermal	8 mg/cm²	Workers	Local
	DNEL	Long term Dermal	8 mg/cm²	Consumers	Local
A mixture of: cis-tetrahydro-2-isobutyl-4-methylpyran-4-ol; trans-tetrahydro-2-isobutyl-4-methylpyran-4-ol	DNEL	Long term Inhalation	12.2 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	3.47 mg/kg	Workers	Systemic
	DNEL	Long term Dermal	2.08 mg/kg	Consumers	Systemic
	DNEL	Long term Inhalation	3.62 mg/m³	Consumers	Systemic
	DNEL	Long term Oral	1.04 mg/kg	Consumers	Systemic
linalool	DNEL	Long term Dermal	2.5 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	2.8 mg/m³	Workers	Systemic

SECTION 8: Exposure controls/personal protection

	DNEL	Long term Dermal	15 mg/cm²	Workers	Local
	DNEL	Short term Dermal	15 mg/cm²	Workers	Local
	DNEL	Long term Dermal	1.25 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	0.7 mg/m³	Consumers	Systemic
	DNEL	Long term Oral	0.2 mg/kg bw/day	Consumers	Systemic
	DNEL	Short term Dermal	15 mg/cm²	Consumers	Local
	DNEL	Short term Dermal	2.5 mg/cm²	Consumers	Systemic
	DNEL	Short term Inhalation	4.1 mg/m³	Consumers	Systemic
	DNEL	Short term Oral	1.2 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Dermal	15 mg/cm²	Consumers	Local
	DNEL	Short term Dermal	5 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	16.5 mg/m³	Workers	Systemic
(E)-4-(2,6,6-trimethyl-1-cyclohexen-1-yl)-3-buten-2-one	DNEL	Long term Inhalation	3.1 mg/m³	Consumers	Systemic
	DNEL	Long term Inhalation	12.7 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	3.6 mg/kg	Consumers	Systemic
	DNEL	Long term Dermal	6 mg/kg	Workers	Systemic
	DNEL	Long term Oral	1.8 mg/kg	Consumers	Systemic
7-hydroxycitronellal	DNEL	Long term Inhalation	18 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	1.9 mg/kg	Workers	Systemic
	DNEL	Short term Dermal	0.5 mg/cm²	Workers	Local
	DNEL	Long term Inhalation	5.4 mg/m³	Consumers	Systemic
	DNEL	Long term Dermal	1.1 mg/kg	Consumers	Systemic
	DNEL	Short term Dermal	0.5 mg/cm²	Consumers	Local
	DNEL	Long term Oral	0.6 mg/kg	Consumers	Systemic
1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one	DNEL	Long term Dermal	0.1011 mg/cm²	Workers	Local
	DNEL	Long term Inhalation	1.76 mg/m³	Workers	Systemic

SECTION 8: Exposure controls/personal protection

	DNEL	Long term Dermal	1.73 mg/kg bw/day	Workers	Systemic
citral	DNEL	Long term Inhalation	9 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	1.7 mg/kg	Workers	Systemic
	DNEL	Long term Dermal	0.14 mg/cm²	Workers	Local
	DNEL	Long term Inhalation	2.7 mg/m³	Consumers	Systemic
	DNEL	Long term Dermal	1 mg/kg	Consumers	Systemic
	DNEL	Long term Oral	0.6 mg/kg	Consumers	Systemic
	DNEL	Long term Dermal	0.14 mg/cm²	Consumers	Local
citronellol	DNEL	Long term Inhalation	161.6 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	327.4 mg/kg	Workers	Systemic
	DNEL	Short term Dermal	2.95 mg/cm²	Workers	Local
	DNEL	Long term Inhalation	47.8 mg/m³	Consumers	Systemic
	DNEL	Long term Dermal	196.4 mg/kg	Consumers	Systemic
	DNEL	Long term Oral	13.8 mg/kg	Consumers	Systemic
	DNEL	Short term Dermal	2.95 mg/cm²	Consumers	Local
	DNEL	Long term Inhalation	10 mg/m³	Workers	Local
	DNEL	Long term Inhalation	10 mg/m³	Consumers	Local
2-(4-tert-butylbenzyl) propionaldehyde	DNEL	Long term Inhalation	0.44 mg/m³	Workers	Systemic
	DNEL	Short term Dermal	0.41 mg/cm²	Workers	Local
	DNEL	Long term Dermal	2.075 mg/kg	Workers	Systemic
	DNEL	Long term Inhalation	0.11 mg/m³	Consumers	Systemic
	DNEL	Long term Oral	0.0625 mg/kg	Consumers	Systemic
	DNEL	Long term Dermal	1.0375 mg/kg	Consumers	Systemic
	DNEL	Short term Dermal	0.41 mg/	Consumers	Local

SECTION 8: Exposure controls/personal protection

			cm²		
2,6-di-tert-butyl-p-cresol	DNEL	Long term Inhalation	58 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	1.74 mg/m³	Consumers	Systemic
	DNEL	Long term Dermal	8.3 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	5 mg/kg bw/day	Consumers	Systemic

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
benzyl benzoate	Soil	2.12 mg/kg dwt	-
	Sewage Treatment Plant	100 mg/l	-
	Fresh water sediment	10.66 mg/kg wwt	-
	Marine water sediment	1.07 mg/kg wwt	-
	Marine water	0.00168 mg/l	-
	Fresh water	0.0168 mg/l	-
linalyl acetate	Fresh water	0.011 mg/l	-
	Marine water	0.0011 mg/l	-
	Marine water sediment	0.0609 mg/kg	-
	Soil	0.115 mg/kg	-
	Sewage Treatment Plant	10 mg/l	-
	Intermittent release	0.11 mg/l	-
	Fresh water sediment	0.609 mg/kg	-
A mixture of: cis-tetrahydro-2-isobutyl-4-methylpyran-4-ol; trans-tetrahydro-2-isobutyl-4-methylpyran-4-ol	Fresh water	0.094 mg/l	-
	Marine water	0.0094 mg/l	-
	Secondary Poisoning	0.94 mg/l	-
	Fresh water sediment	0.412 mg/kg	-
	Marine water sediment	0.0412 mg/kg	-
	Soil	0.0902 mg/kg	-
	Sewage Treatment Plant	10 mg/l	-
linalool	Fresh water	0.2 mg/l	-
	Marine water	0.02 mg/l	-
	Intermittent release	2 mg/l	-

SECTION 8: Exposure controls/personal protection

	Fresh water sediment	2.22 mg/kg dwt	-
	Marine water sediment	0.222 mg/kg dwt	-
	Soil	0.327 mg/kg dwt	-
	Sewage Treatment Plant	>10 mg/l	-
(E)-4-(2,6,6-trimethyl-1-cyclohexen-1-yl) -3-buten-2-one	Fresh water	0.00403 mg/l	-
	Marine water	0.0004 mg/l	-
	Intermittent release	0.0403 mg/l	-
	Sewage Treatment Plant	1 mg/l	-
	Fresh water sediment	0.151 mg/kg	-
	Marine water sediment	0.0151 mg/kg	-
	Soil	0.0508 mg/kg	-
7-hydroxycitronellal	Fresh water	0.0316 mg/l	-
	Marine water	0.00316 mg/l	-
	Intermittent release	0.316 mg/l	-
	Sewage Treatment Plant	10 mg/l	-
	Fresh water sediment	0.145 mg/kg	-
	Marine water sediment	0.0145 mg/kg	-
	Soil	0.0105 mg/kg	-
1-(1,2,3,4,5,6,7,8-octahydro-2,3,8, 8-tetramethyl-2-naphthyl)ethan-1-one	Fresh water	0.0028 mg/l	-
	Marine water	0.00028 mg/l	-
	Fresh water sediment	3.73 mg/kg	-
	Marine water sediment	0.75 mg/kg	-
	Soil	0.705 mg/kg	-
citral	Fresh water	0.00678 mg/l	-
	Marine water	0.000678 mg/l	-
	Fresh water sediment	0.125 mg/kg	-
	Marine water sediment	0.0125 mg/kg	-
	Soil	0.0209 mg/kg	-
	Sewage Treatment Plant	1.6 mg/l	-
	Intermittent release	0.0678 mg/l	-

SECTION 8: Exposure controls/personal protection

citronellol	Fresh water	0.0024 mg/l	-
	Marine water	0.00024 mg/l	-
	Sewage Treatment Plant	580 mg/l	-
	Fresh water sediment	0.0256 mg/kg	-
	Marine water sediment	0.00256 mg/l	-
	Soil	0.00371 mg/kg	-
	Intermittent release	0.024 mg/l	-
2-(4-tert-butylbenzyl)propionaldehyde	Fresh water	0.00204 mg/l	-
	Marine water	0.0002 mg/l	-
	Fresh water sediment	0.269 mg/kg	-
	Marine water sediment	0.0269 mg/kg	-
	Soil	0.0525 mg/kg	-
	Sewage Treatment Plant	10 mg/l	-
2,6-di-tert-butyl-p-cresol	Soil	1.04 mg/kg wwt	Equilibrium Partitioning
	Sewage Treatment Plant	100 mg/l	Assessment Factors
	Sediment	1.29 mg/kg wwt	Equilibrium Partitioning
	Secondary Poisoning	16.7 mg/kg	Assessment Factors
	Marine water	0.4 µg/l	Assessment Factors
	Fresh water	4 µg/l	Assessment Factors

8.2 Exposure controls

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

SECTION 8: Exposure controls/personal protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Color : Characteristic.

Odor : Characteristic.

Odor threshold : Not available.

pH : Not available.

Melting point/freezing point : Not available.

Initial boiling point and boiling range : Not available.

Flash point : Closed cup: 81°C

Evaporation rate : Not available.

Upper/lower flammability or explosive limits : Not available.

Vapor pressure : 0.24 hPa

Vapor density : Not available.

Density : 0.962 to 0.972 g/cm³ [20°C]

Solubility in water : Non water-soluble liquid

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C): <0.07 cm^2/s (Estimated.)

Explosive properties : Not available.

Oxidizing properties : Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : No specific data.

10.5 Incompatible materials : No specific data.

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
benzyl benzoate	LD50 Dermal	Rabbit	4 g/kg	-
linalyl acetate	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	13934 mg/kg	-
A mixture of: cis-tetrahydro-2-isobutyl-4-methylpyran-4-ol; trans-tetrahydro-2-isobutyl-4-methylpyran-4-ol	LD50 Oral	Rat	5000 mg/kg	-
Oxacyclohexadecen-2-one	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
dipentene	LD50 Oral	Rat	5300 mg/kg	-
linalool	LD50 Dermal	Rabbit	5610 mg/kg	-
	LD50 Dermal	Rat	5610 mg/kg	-
	LD50 Oral	Rat	2790 mg/kg	-
(E)-4-(2,6,6-trimethyl-1-cyclohexen-1-yl)-3-buten-2-one	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>4000 mg/kg	-
7-hydroxycitronellal	LD50 Oral	Rat	6400 mg/kg	-
1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
citral	LD50 Dermal	Rabbit	2250 mg/kg	-
	LD50 Oral	Rat	3.45 g/kg	-

SECTION 11: Toxicological information

citronellol	LD50 Dermal	Rabbit	2650 mg/kg	-
	LD50 Oral	Rat	3450 mg/kg	-
3-(4-tert-butylphenyl) propionaldehyde	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	2700 mg/kg	-
3-p-cumenyl-2-methylpropionaldehyde	LD50 Dermal	Rat	>5 g/kg	-
	LD50 Oral	Rat	3810 mg/kg	-
2-(4-tert-butylbenzyl) propionaldehyde	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	1390 mg/kg	-
pin-2(10)-ene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	4700 mg/kg	-
2,6-di-tert-butyl-p-cresol	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

Acute toxicity estimates

Route	ATE value
Oral	3849.3 mg/kg

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
linalyl acetate	Skin - Moderate irritant	Guinea pig	-	24 hours 100 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 100 milligrams	-
linalool	Eyes - Moderate irritant	Rabbit	-	1 hours 0.1 Mililiters	-
	Eyes - Moderate irritant	Rabbit	-	100 microliters	-
	Skin - Moderate irritant	Guinea pig	-	24 hours 100 milligrams	-
	Skin - Mild irritant	Human	-	72 hours 32 Percent	-
	Skin - Mild irritant	Man	-	48 hours 16 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 100 milligrams	-
7-hydroxycitronellal	Eyes - Irritant	Rabbit	-	-	-
citral	Skin - Moderate irritant	Guinea pig	-	48 hours 1 Percent	-

SECTION 11: Toxicological information

	Skin - Severe irritant	Guinea pig	-	24 hours 100 milligrams	-
	Skin - Mild irritant	Human	-	24 hours 40 milligrams	-
	Skin - Severe irritant	Man	-	48 hours 16 milligrams	-
	Skin - Severe irritant	Pig	-	48 hours 50 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 100 milligrams	-
citronellol	Eyes - Moderate irritant	Rabbit	-	0.42 Percent	-
	Skin - Severe irritant	Guinea pig	-	24 hours 100 milligrams	-
	Skin - Moderate irritant	Man	-	48 hours 16 milligrams	-
	Skin - Moderate irritant	Rabbit	-	4 hours 0.42 Percent	-
	Skin - Severe irritant	Rabbit	-	24 hours 100 milligrams	-
	Skin - Severe irritant	Rabbit	-	4 hours 0.5 Mililiters	-
3-p-cumenyl-2-methylpropionaldehyde	Skin - Mild irritant	Human	-	48 hours 15 milligrams	-
2-(4-tert-butylbenzyl) propionaldehyde	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitization

Product/ingredient name	Route of exposure	Species	Result
benzyl benzoate	skin	Mouse	Not sensitizing
(E)-4-(2,6,6-trimethyl-1-cyclohexen-1-yl)-3-buten-2-one	skin	Human	Not sensitizing
7-hydroxycitronellal	skin	Mouse	Sensitizing
1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one	skin	Mouse	Sensitizing
citronellol	skin	Mouse	Sensitizing
3-p-cumenyl-2-methylpropionaldehyde	skin	Guinea pig	Sensitizing
2-(4-tert-butylbenzyl) propionaldehyde	skin	Mouse	Sensitizing
	skin	Human	Sensitizing

SECTION 11: Toxicological information

Mutagenicity

Product/ingredient name	Test	Experiment	Result
benzyl benzoate	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
(E)-4-(2,6,6-trimethyl-1-cyclohexen-1-yl)-3-buten-2-one	-	Experiment: In vitro Subject: Bacteria	Negative
1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one	-	Experiment: In vitro Subject: Mammalian-Human	Negative
	-	Experiment: In vivo Subject: Mammalian-Animal	Negative
3-p-cumenyl-2-methylpropionaldehyde	-	Experiment: In vitro Subject: Bacteria	Negative
2,6-di-tert-butyl-p-cresol	-	Experiment: In vitro Subject: Bacteria	Negative
	-	Experiment: In vitro Subject: Mammalian-Animal	Negative
	-	Experiment: In vivo Subject: Mammalian-Animal	Negative

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
benzyl benzoate	-	-	-	Rat - Female	Oral: 646 mg/kg	-
2-(4-tert-butylbenzyl) propionaldehyde	-	Positive	-	Dog - Male	Oral	-
2,6-di-tert-butyl-p-cresol	Negative	-	-	Rat - Male, Female	Oral: 100 mg/kg	-

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
3-(4-tert-butylphenyl)propionaldehyde	Category 2	Oral	Not determined

Aspiration hazard

Product/ingredient name	Result
dipentene	ASPIRATION HAZARD - Category 1
pin-2(10)-ene	ASPIRATION HAZARD - Category 1

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

SECTION 11: Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
benzyl benzoate	Sub-chronic NOAEL Oral	Rat - Male	800 mg/kg	90 days
	Sub-acute NOAEL Dermal	Rat - Male	781 mg/kg	30 days
2,6-di-tert-butyl-p-cresol	Chronic NOAEL Oral	Rat	25 mg/kg	28 days; 7 days per week

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Interactive effects : Not available.

Toxicokinetics

Absorption : Not available.

Distribution : Not available.

Metabolism : Not available.

Elimination : Not available.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

SECTION 12: Ecological information

Product/ingredient name	Result	Species	Exposure
benzyl benzoate	Acute IC50 0.475 mg/l	Algae	72 hours
	Acute LC50 3.09 mg/l	Daphnia	48 hours
	Acute LC50 2.32 mg/l	Fish	96 hours
	Acute LC50 1.4 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 0.247 mg/l	Algae	72 hours
linalyl acetate	Acute EC50 15 mg/l	Daphnia	48 hours
	Acute LC50 11 mg/l	Fish	96 hours
A mixture of: cis-tetrahydro-2-isobutyl-4-methylpyran-4-ol; trans-tetrahydro-2-isobutyl-4-methylpyran-4-ol	Acute EC50 320 mg/l	Daphnia	48 hours
	Acute LC50 354 mg/l	Fish	96 hours
Oxacyclohexadecen-2-one	Acute EC50 >0.96 mg/l	Daphnia	48 hours
	Acute LC50 >0.8 mg/l	Fish	96 hours
dipentene	Acute EC50 28.2 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute EC50 20.2 mg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute IC50 13.798 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute LC50 31 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 38.5 mg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
linalool	Acute EC50 141.4 mg/l	Aquatic plants	96 hours
	Acute EC50 59 mg/l	Daphnia	48 hours
	Acute EC50 >100 mg/l	Micro-organism	3 hours
	Acute LC50 27.8 mg/l	Fish	96 hours
(E)-4-(2,6,6-trimethyl-1-cyclohexen-1-yl)-3-buten-2-one	Acute EC50 4.03 mg/l	Daphnia	48 hours
	Acute LC50 21.2 mg/l	Algae	72 hours
	Acute LC50 5090 µg/l Fresh water	Fish - Pimephales promelas	96 hours
7-hydroxycitronellal	Acute EC10 625 mg/l	Micro-organism - Pseudomonas putida	17 hours
	Acute EC50 123.32 mg/l	Algae - Scenedesmus subspicatus	72 hours
	Acute LC50 410 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 31.6 mg/l	Fish - Leuciscus idus	96 hours

SECTION 12: Ecological information

1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one	Acute EC50 2.6 mg/l	Algae	72 hours
	Acute EC50 1.38 mg/l	Daphnia	48 hours
	Acute LC50 1.3 mg/l	Fish	96 hours
	Chronic NOEC 0.028 mg/l	Daphnia	21 days
	Chronic NOEC 0.16 mg/l	Fish	30 days
citral	Acute EC50 103.8 mg/l	Aquatic plants	72 hours
	Acute EC50 7 mg/l	Daphnia	48 hours
	Acute LC50 6.8 mg/l	Fish	96 hours
citronellol	Acute EC10 580 mg/l	Micro-organism	30 minutes
	Acute EC50 2.4 mg/l	Aquatic plants	72 hours
	Acute EC50 17.48 mg/l	Daphnia	48 hours
	Acute LC50 14.66 mg/l	Fish	96 hours
3-(4-tert-butylphenyl) propionaldehyde	Acute EC50 6.3 mg/l	Daphnia	48 hours
3-p-cumenyl-2-methylpropionaldehyde	Acute EC50 4.19 mg/l	Daphnia	48 hours
2-(4-tert-butylbenzyl) propionaldehyde	Acute EC50 29.16 mg/l	Algae - Scenedesmus subspicatus	72 hours
	Acute EC50 10.7 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 2.04 mg/l	Fish - Brachydanio rerio	96 hours
pin-2(10)-ene	Acute EC50 0.7 mg/l	Algae	72 hours
	Acute EC50 0.86 mg/l	Daphnia	48 hours
	Acute LC50 0.68 mg/l	Fish	96 hours
2,6-di-tert-butyl-p-cresol	Acute EC50 0.61 mg/l	Daphnia	48 hours
	Acute EC50 >10000 mg/l	Micro-organism	3 hours

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
benzyl benzoate	OECD 301F Ready Biodegradability - Manometric Respirometry Test	94 % - Readily - 28 days	-	-
linalyl acetate	OECD 301F Ready Biodegradability - Manometric Respirometry	75 % - Readily - 28 days	-	-

SECTION 12: Ecological information

	Test			
A mixture of: cis-tetrahydro-2-isobutyl-4-methylpyran-4-ol; trans-tetrahydro-2-isobutyl-4-methylpyran-4-ol	OECD 301C Ready Biodegradability - Modified MITI Test (I)	<60 % - Not readily - 28 days	-	-
Oxacyclohexadecen-2-one	OECD 301F Ready Biodegradability - Manometric Respirometry Test	97 % - Readily - 28 days	-	-
linalool	OECD 301C Ready Biodegradability - Modified MITI Test (I)	64.2 % - Readily - 28 days	-	-
(E)-4-(2,6,6-trimethyl-1-cyclohexen-1-yl)-3-buten-2-one	OECD 301F Ready Biodegradability - Manometric Respirometry Test	80 % - Readily - 28 days	-	-
7-hydroxycitronellal	OECD 301F Ready Biodegradability - Manometric Respirometry Test	85 % - Readily - 28 days	-	Activated sludge
1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one	OECD 301C Ready Biodegradability - Modified MITI Test (I)	11 % - Not readily - 28 days	-	-
citral	OECD 301C Ready Biodegradability - Modified MITI Test (I)	92 % - Readily - 28 days	-	-
citronellol	OECD 301F Ready Biodegradability - Manometric Respirometry Test	90 % - Readily - 28 days	-	-
3-(4-tert-butylphenyl) propionaldehyde	OECD 301F Ready Biodegradability - Manometric Respirometry Test	65 % - Readily - 28 days	-	-
3-p-cumenyl-2-methylpropionaldehyde	OECD 301B Ready Biodegradability -	66 % - Readily - 28 days	-	-

SECTION 12: Ecological information

	CO_2 Evolution Test			
2-(4-tert-butylbenzyl) propionaldehyde	OECD 301F Ready Biodegradability - Manometric Respirometry Test	84 % - Readily - 28 days	-	Activated sludge
pin-2(10)-ene	OECD 301D Ready Biodegradability - Closed Bottle Test	1 % - Not readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
benzyl benzoate	-	-	Readily
linalyl acetate	-	-	Readily
A mixture of: cis-tetrahydro-2-isobutyl-4-methylpyran-4-ol; trans-tetrahydro-2-isobutyl-4-methylpyran-4-ol	-	-	Not readily
Oxacyclohexadecen-2-one	-	-	Readily
linalool	-	-	Readily
(E)-4-(2,6,6-trimethyl-1-cyclohexen-1-yl)-3-buten-2-one	-	-	Readily
7-hydroxycitronellal	-	-	Readily
1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one	-	-	Not readily
citral	-	-	Readily
citronellol	-	-	Readily
3-(4-tert-butylphenyl) propionaldehyde	-	-	Readily
3-p-cumenyl-2-methylpropionaldehyde	-	-	Readily
2-(4-tert-butylbenzyl) propionaldehyde	-	-	Readily
pin-2(10)-ene	-	-	Not readily
2,6-di-tert-butyl-p-cresol	-	-	Not readily

12.3 Bioaccumulative potential

SECTION 12: Ecological information

Product/ingredient name	$LogP_{ow}$	BCF	Potential
benzyl benzoate	3.97	193.4	low
linalyl acetate	3.9	173.9	low
A mixture of: cis-tetrahydro-2-isobutyl-4-methylpyran-4-ol; trans-tetrahydro-2-isobutyl-4-methylpyran-4-ol	1.65	-	low
Oxacyclohexadecen-2-one	5.45	-	high
dipentene	4.57	-	high
linalool	2.84	-	low
(E)-4-(2,6,6-trimethyl-1-cyclohexen-1-yl)-3-buten-2-one	4.1	202.4	low
7-hydroxycitronellal	>1	-	low
1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one	5.65	-	high
citral	2.76	89.72	low
citronellol	3.41	82.59	low
3-(4-tert-butylphenyl) propionaldehyde	3.2	-	low
3-p-cumenyl-2-methylpropionaldehyde	3.4	-	low
2-(4-tert-butylbenzyl) propionaldehyde	4.2	349.8	low
pin-2(10)-ene	4.425	1163	high
2,6-di-tert-butyl-p-cresol	4.17	330 to 1800	high

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

European waste catalogue (EWC)

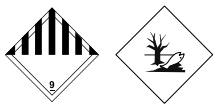
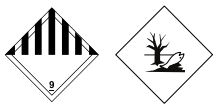
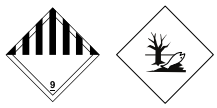
Waste code	Waste designation
16 03 05*	organic wastes containing dangerous substances

Packaging

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	UN3082	UN3082	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (benzyl benzoate, Oxacyclohexadecen-2-one)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (benzyl benzoate, Oxacyclohexadecen-2-one)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (benzyl benzoate, Oxacyclohexadecen-2-one)
14.3 Transport hazard class(es)	9 	9 	9 
14.4 Packing group	III	III	III
14.5 Environmental hazards	Yes.	Marine pollutant	Yes.
Additional information	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. **Tunnel code** (E)	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

SECTION 14: Transport information

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not applicable.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
3-(4-tert-butylphenyl) propionaldehyde	-	-	-	Repr. 2, H361f (Fertility)
2-(4-tert-butylbenzyl) propionaldehyde	-	-	-	Repr. 2, H361f (Fertility)

Registration status

All components are listed : Australia inventory (AICS)

China inventory (IECSC)

Japan inventory

Philippines inventory (PICCS)

Taiwan inventory (CSNN)

United States inventory (TSCA 8b)

Europe inventory (EINECS/ELINCS/ NLP)

Canada inventory (DSL)

15.2 Chemical Safety Assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method
Aquatic Chronic 2, H411	Calculation method

Full text of abbreviated H statements :

H226	Flammable liquid and vapor.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H361f (Fertility)	Suspected of damaging fertility.
H373 (oral)	May cause damage to organs through prolonged or repeated exposure if swallowed.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS] :

Acute Tox. 4, H302	ACUTE TOXICITY (oral) - Category 4
Aquatic Acute 1, H400	AQUATIC HAZARD (ACUTE) - Category 1
Aquatic Chronic 1, H410	AQUATIC HAZARD (LONG-TERM) - Category 1
Aquatic Chronic 2, H411	AQUATIC HAZARD (LONG-TERM) - Category 2
Aquatic Chronic 3, H412	AQUATIC HAZARD (LONG-TERM) - Category 3
Asp. Tox. 1, H304	ASPIRATION HAZARD - Category 1
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Flam. Liq. 3, H226	FLAMMABLE LIQUIDS - Category 3
Repr. 2, H361f (Fertility)	TOXIC TO REPRODUCTION (Fertility) - Category 2
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1, H317	SKIN SENSITIZATION - Category 1
Skin Sens. 1B, H317	SKIN SENSITIZATION - Category 1B
STOT RE 2, H373 (oral)	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (oral) - Category 2

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